Normal values of esophageal pressure responses to a rapid drink challenge test in healthy subjects: results of a multicenter study.

I. Marin, Daniel Cisternas, L. Abrao, E. Lemme, C. Bilder, A. Ditaranto, R. Coello, Albis Hani, A. M. Leguizamo, A. Meixueiro, Jose Remes-Troche, M. Zavala, A. Ruiz de León, J. Perez de la Serna, Miguel Valdovinos y J. Serra.

Abstract

BACKGROUND: Multiple water swallow is increasingly used as a complementary challenge test in patients undergoing high-resolution manometry (HRM). Our aim was to establish the range of normal pressure responses during the rapid drink challenge test in a large population of healthy subjects.

METHODS: Pressure responses to a rapid drink challenge test (100 or 200 mL of water) were prospectively analyzed in 105 healthy subjects studied in nine different hospitals from different countries. Esophageal motility was assessed in all subjects by solid-state HRM. In 18 subjects, bolus transit was analyzed using concomitant intraluminal impedance monitoring.

KEY RESULTS: A virtually complete inhibition of pressure activity was observed during multiple swallow: Esophageal body pressure was above 20 mm Hg during 1 (0-8) % and above 30 mm Hg during 1 (0-5) % of the swallow period, and the pressure gradient across the esophagogastric junction was low (-1 (-7 to 4) mm Hg). At the end of multiple swallow, a postswallow contraction was evidenced in only 50% of subjects, whereas the remaining 50% had non-transmitted contractions. Bolus clearance was completed after 7 (1-30) s after the last swallow, as evidenced by multichannel intraluminal impedance.

CONCLUSIONS & INFERENCES: The range of normal pressure responses to a rapid drink challenge test in health has been established in a large multicenter study. Main responses are a virtually complete inhibition of esophageal pressures with a low-pressure gradient across esophagogastric junction. This data would allow the correct differentiation between normal and disease when using this test.